

## TENT COOPERATION TREATY

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents  
United States Patent and Trademark  
Office  
Box PCT  
Washington, D.C.20231  
ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

<b>Date of mailing (day/month/year)</b> 28 February 2000 (28.02.00)	
<b>International application No.</b> PCT/GB99/01873	<b>Applicant's or agent's file reference</b> J24602WO
<b>International filing date (day/month/year)</b> 14 June 1999 (14.06.99)	<b>Priority date (day/month/year)</b> 12 June 1998 (12.06.98)
<b>Applicant</b> HOLLIDAY, David et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:  
12 January 2000 (12.01.00)

☐ in a notice effecting later election filed with the International Bureau on:  
\_\_\_\_\_

2. The election ☒ was  
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

Olivia RANAIVOJAONA

Telephone No.: (41-22) 338.83.38

# PATENT COOPERATION TREATY

## PCT

REC'D 13 SEP 2000

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference J00024602WO	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB99/01873	International filing date (day/month/year) 14/06/1999	Priority date (day/month/year) 12/06/1998
International Patent Classification (IPC) or national classification and IPC H04N5/445		
Applicant BRITISH SKY BROADCASTING LIMITED et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 9 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 0 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☒ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 12/01/2000	Date of completion of this report 11.09.2000
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Brandenburg, J Telephone No. +49 89 2399 8027 

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/GB99/01873

**I. Basis of the report**

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

**Description, pages:**

1-27 as originally filed

**Claims, No.:**

5-21 as originally filed

1-4 as received on 21/08/2000 with letter of 21/08/2000

**Drawings, sheets:**

1/6-6/6 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☐ the claims, Nos.:  
☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

**IV. Lack of unity of invention**

1. In response to the invitation to restrict or pay additional fees the applicant has:

- ☐ restricted the claims.  
☒ paid additional fees.  
☐ paid additional fees under protest.

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/GB99/01873

☐ neither restricted nor paid additional fees.

2. ☐ This Authority found that the requirement of unity of invention is not complied and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

☐ complied with.

☒ not complied with for the following reasons:

**see separate sheet**

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

☒ all parts.

☐ the parts relating to claims Nos. .

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes:	Claims	1-21
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-8,16-18
	No:	Claims	9-15,19-21
Industrial applicability (IA)	Yes:	Claims	1-21
	No:	Claims	

**2. Citations and explanations**

**see separate sheet**

**VII. Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/GB99/01873

The following documents are cited:

- D1: US-A-5 585 866  
D2: EP-A-0 823 815  
D3: WO 97 23997 A cited in the application  
D4: WO 96 37996 A cited in the application
- D5: US-A-5 619 274  
D6: PATENT ABSTRACTS OF JAPAN vol. 1999, no. 05, 31 May 1999  
(1999-05-31) & JP 11 055592 A  
D7: EP-A-0 822 718  
D8: US-A-5 371 550
- D9: US-A-5 635 989  
D10: WO 96 07270 A  
D11: WO 94 13107 A  
D12: US-A-5 684 525  
D13: WO 98 06219 A  
D14: EP-A-0 746 153

**Re Item IV**

Lack of unity of invention

The subject-matter common for independent claim 1,9,14,16,19,20 is a TV receiver for a plurality of channels including schedule or additional data.

These common features are already known from D1 (see e.g. abstract).

The requisite unity of invention (Rule 13.1 PCT) therefore no longer exists inasmuch as a technical relationship involving one or more of the same or corresponding special technical features in the sense of Rule 13.2 PCT does not exist between the subject-matter of the following groups of claims:

- I. Claims 1-8: TV receiver with means for receiving data defining a dictionary representing text portions

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/GB99/01873

- II. Claims 9-13: TV receiver comprising means for storing a reference bouquet identity and one or more reference sub-bouquet identities
- III. Claims 14-15: TV receiver with means for filtering scheduling data depending on sorting data
- IV. Claims 16-18: TV receiver for a first and second broadcast network with different data rate
- V. Claim 19: TV receiver with means for determining from data for a reference channel a schedule for other channels
- VI. Claims 20-21: TV receiver arranged to filter data relating to pay-per view events

**Re Item V**

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

**1. Novelty, Inventive Step:**

**I. Claims 1-8:**

The documents D1-D4 do not appear to be detrimental to novelty or inventive step of the subject-matter of claim 1 since none of these discloses receiving data defining a dictionary in two versions, storing one of the versions and determining whether data for a text portion is the stored or the other version of the dictionary.

**II. Claims 9-13:**

The document D5 is regarded as being the closest prior art to the subject-matter of claim 9, and shows (see abstract)

- a receiver for receiving television signals in a plurality of channels each defining a television programme and/or other services provided by a broadcaster,

with the substantial features of present claim 9.

The comparison of bouquet identities and sub-bouquet identities appears to be equivalent to the method shown in D5, where channels assignments are made and sets of channels and reception groups are formed and compared so as to select programs according to reception group or themes, see D5, col. 9, line 21-col. 11, line 67.

Thus, the features of claim 9 in its present broad formulation are rendered obvious by D5. This is particularly so because the technical meaning of several expressions like "bouquet identity" and "sub-bouquet identity", etc., can only be deduced from a detailed study of the description. Taken alone these expressions constitute undefined labels which have no limiting effect on the claim's scope.

Dependent claims 10-13 do not appear to contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step, the reasons being as follows: Insofar as their features are not explicitly anticipated by D5 they appear to relate to normal design measures which suggest themselves in practise.

### **III. Claims 14-15:**

Document D9 anticipates the substantial features of claim 14, see D9, e.g. claims 9-12. The only difference might be seen in that in the claim "sorting data defining a sorting list" are received, and the scheduling data are filtered according to the sorting data... to produce a filtered schedule...

However, this difference is rather vague since it is not clear in which way the sorting data and sorting list effect a filtering of schedule data, and the sorting data have not been specified in the claim at all. A simple bit or flag could be interpreted as such "sorting data" since the information could be sorted by means of flags or bits. The method shown in D9 produces a sorted display of favourites from schedule data, see e.g. figure 2. This sorted display must depend in some way from sorting data namely the bits identifying a program as belonging to a certain category.

In every cable TV system distributing electronic program guides, schedule information is accompanied by various data, see e.g. the data formats shown in D5, figures 6-15..., & column 11, lines 39-47, and from which at least a part serves for sorting a schedule list, according to themes or favourites or genre etc.

It is further referred to D10, which shows another receiver apparatus with the capability of a sorted display of schedule data according to sorting data, such as "themes", "favourites", "genre".

Claim 14 is in its present broad formulation does not define anything which is different from the operation of such normal prior art receivers for receiving and displaying electronic program guides. Thus, the subject-matter of claim 14 is considered as being obvious.

The enabling of events in a schedule, depending on "genre" etc. is a known measure, cf. D9, column 8, lines 23-33 (or D10, D11), since the possibility of displaying or recording programs from the schedule in dependence of a category or theme etc. can be seen as such an event as defined in claim 15. Thus, claim 15 is considered as being obvious as well.

#### **IV. Claims 16-18:**

Document D12, which is considered to represent the most relevant state of the art, discloses (see e.g. Figure 1A/B & col. 2, lines 7-29) a receiver for receiving TV signals in a first (via 26) and second (via 28,29) broadcast network, including schedule data, wherein means for decoding (20,36) are provided to decode and display schedule data on user request, from which the subject-matter of claim 16 differs in that the program schedule data are broadcast in one network at a faster rate than in the other network, in that a cache is provided for storing a portion of programme schedule data for the first and/or second network, etc.

Although the system of D12 actually performs a merging of programme guide information between different channels and the different networks shown apparently provide different data rates there is no clear disclosure that the broadcasting of the schedule information is actually performed at different data rates. At least this feature might therefore represent a non-suggested inventive surplus.

#### **V. Claim 19:**

The subject-matter of claim 19 appears to be obvious since in D10, it is described



that a schedule for different channels is formed and distributed, and that the programmes are displayed according to the schedule in a time shifted-service, see e.g. page 20, line 25 - page 21, line 12. Although the time list disclosed is "pre-established" the schedule data can be updated by a signal within the distributed video signal, see p. 5, lines 3-16.

#### **VI. Claims 20-21:**

Document D1 discloses (in the wording of claim 20; the references in parentheses applying to this document):

- a receiver (cf. figure 1; abstract, line 2) for receiving television signals in a plurality of channels (see abstract, lines 3-4) each defining a television programme and at least a signal in one of the channels further comprising programme scheduling data (cf. abstract, lines 7-8) including pay-per-view events (as shown in e.g. figures 22, 26),
- the receiver being arranged to display [ filter ] the data pertaining to the pay-per-view events [for display] on the television screen (cf. figures 10, 26),

from which the subject matter of claim 20 merely differs in the portion underlined and in square brackets above, namely the "filtering" of the data for display. However, the kind or technical effect of this filtering is not defined in the claim. Thus, every kind of filtering applied in D1 could be interpreted in the sense of this feature of claim 20.

In particular, D1 shows the display of a sorted list of events, sorted according to the type of the event as, for example, pay-per-view events, see figure 22. To display a sorted list like that shown in figure 22 a certain filtering operation must have been carried out before. Thus, the feature relating to "filtering" of claim 20 is obvious from D1.

The additional features of claim 21 are considered merely as design alternatives which are normally used in the field of TV receivers with program guides/Pay-TV.

2. For the assessment of the present claims 1-21 on the question whether they are industrially applicable, no unified criteria exist in the PCT Contracting States. The

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/GB99/01873

patentability can also be dependent upon the formulation of the claims. However, since the present claims relate to the technical field of TV receivers no reason is apparent that the claimed subject-matter should not be industrially applicable.

**Re Item VII**

Certain defects in the international application

1. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1, D5, D9, D10, D12 is not mentioned in the description, nor are these documents identified therein.
2. The independent claims are not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art (i.e. the document coming closest to each of the independent claims, respectively) placed in the preamble (Rule 6.3(b)(i) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).
3. The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-8

text compression using dictionaries representing text portions

2. Claims: 9-13

regionalizing broadcasted channels by using channel bouquets according to a given region of interest

3. Claims: 14, 15

sorting schedule data according to a given parameter

4. Claims: 16-18

caching EPG schedule data for merging data from various environments

5. Claim : 19

time-shifted services for broadcasting a same movie from different channels at different start times

6. Claims: 20, 21

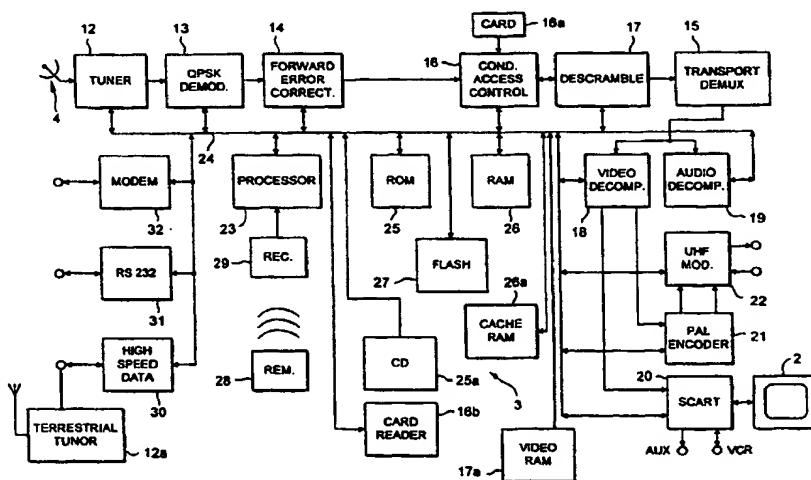
EPG scheduling pay per view programmes



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification <sup>6</sup> : <b>H04N 5/445</b>		<b>A3</b>	(11) International Publication Number: <b>WO 99/66721</b>
			(43) International Publication Date: 23 December 1999 (23.12.99)
(21) International Application Number: PCT/GB99/01873 (22) International Filing Date: 14 June 1999 (14.06.99) (30) Priority Data: 9812797.0 12 June 1998 (12.06.98) GB (71) Applicant (for all designated States except US): BRITISH SKY BROADCASTING LIMITED [GB/GB]; Grant Way, Isleworth, Middlesex TW7 5QD (GB). (72) Inventors; and (75) Inventors/Applicants (for US only): HOLLIDAY, David [GB/GB]; British Sky Broadcasting Limited, Grant Way, Isleworth, Middlesex TW7 5QD (GB). CROSSLEY, Robin [GB/GB]; British Sky Broadcasting Limited, Grant Way, Isleworth, Middlesex TW7 5QD (GB). JAMES, Nicholas [GB/GB]; British Sky Broadcasting Limited, Grant Way, Isleworth, Middlesex TW7 5QD (GB). (74) Agents: WHITTEN, George, Alan et al.; R.G.C. Jenkins & Co., 26 Caxton Street, London SW1H 0RJ (GB).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).  <b>Published</b> <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>  (88) Date of publication of the international search report: 10 February 2000 (10.02.00)	

(54) Title: TELEVISION SIGNALS RECEIVER



## (57) Abstract

A receiver for receiving television signals is arranged to receive signals in a plurality of channels. Each signal defines a television programme and at least a signal in one of the channels comprises compressed data defining broadcast events in the channels from time to time. The receiver is arranged to produce output signals defining an image of events in the programme schedule for displaying on a television screen. The receiver comprises means for receiving data defining a dictionary representing text portions, means for decoding the programme scheduling data to identify text portions in the dictionary, and means for constructing the image of events from the identified text portions. A signal in each channel comprises a bouquet identity and a sub-bouquet identity for the channel. The receiver comprises means for storing a reference bouquet identity and one or more reference sub-bouquet identities, means for comparing the bouquet identity and sub-bouquet identity for a channel in a received signal with the reference bouquet and sub-bouquet identities and means for outputting the received television signal for display of the programme or other services defined thereby depending on the comparison.

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Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
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CZ	Czech Republic	LC	Saint Lucia	RU	Russian Federation		
DE	Germany	LI	Liechtenstein	SD	Sudan		
DK	Denmark	LK	Sri Lanka	SE	Sweden		
EE	Estonia	LR	Liberia	SG	Singapore		

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 99/01873

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 H04N5/445

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 823 815 A (MATSUSHITA ELECTRIC IND CO LTD) 11 February 1998 (1998-02-11) column 10, line 55 -column 17, line 13 ---	1-8
A	US 5 585 866 A (DARATA PAUL ET AL) 17 December 1996 (1996-12-17) column 7, line 48 -column 36, line 48 ---	1-8
A	WO 97 23997 A (BRITISH SKY BROADCASTING LTD ;TOWNSEND CHRISTOPHER PETER (GB); HOL) 3 July 1997 (1997-07-03) cited in the application page 8 -page 45 --- -/--	1-8



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

### \* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

3 December 1999

Date of mailing of the international search report

14. 12. 99

Name and mailing address of the ISA

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Authorized officer

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# INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 99/01873

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 96 37996 A (WEBBER ALUN DAVID ; CROSSLEY ROBIN (GB); HOLLIDAY DAVID (GB); BRITI) 28 November 1996 (1996-11-28) cited in the application page 10, line 9 -page 48 ---	1-8
X	US 5 619 274 A (ALEGIANI GIAMBATTISTA A ET AL) 8 April 1997 (1997-04-08) column 9, line 21 -column 49, line 49 ---	9-13
A,P	PATENT ABSTRACTS OF JAPAN vol. 1999, no. 05, 31 May 1999 (1999-05-31) & JP 11 055592 A (HITACHI LTD; HITACHI VIDEO IND INF SYST INC), 26 February 1999 (1999-02-26) abstract ---	9-13
A	EP 0 822 718 A (DISCOVERY COMMUNICAT INC) 4 February 1998 (1998-02-04) page 3, line 47 -page 28, line 17 ---	9-13
A	US 5 371 550 A (KUROSAWA KAZUYUKI ET AL) 6 December 1994 (1994-12-06) claims 17-26 ---	9-13
X	US 5 635 989 A (ROTHMULLER MICHAEL) 3 June 1997 (1997-06-03) column 3, line 5 -column 8, line 40 ---	14
Y	---	15
X	WO 96 07270 A (KWOH DANIEL S ; LEUNG ELSIE Y (US); MANKOVITZ ROY J (US); YUEN HENR) 7 March 1996 (1996-03-07) page 4, line 16 -page 27 ---	14,19-21
Y	WO 94 13107 A (DISCOVERY COMMUNICAT INC) 9 June 1994 (1994-06-09) page 10 -page 87 ---	15
X	US 5 684 525 A (KLOSTERMAN BRIAN LEE) 4 November 1997 (1997-11-04) column 2, line 58 -column 9, line 25 ---	16
Y	---	17,18
Y	WO 98 06219 A (STARSIGHT TELECAST INC) 12 February 1998 (1998-02-12) page 11, line 29 -page 21, line 13 ---	17,18
A	EP 0 746 153 A (IBM) 4 December 1996 (1996-12-04) page 3, line 25 -page 27, line 7 -----	16-18

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/GB 99/01873

### Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

### Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

#### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.



## INTERNATIONAL SEARCH REPORT

International application No.

PCT/GB 99/01873

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-8

text compression using dictionaries representing text portions

2. Claims: 9-13

regionalizing broadcasted channels by using channel bouquets according to a given region of interest

3. Claims: 14, 15

sorting schedule data according to a given parameter

4. Claims: 16-18

caching EPG schedule data for merging data from various environments

5. Claim : 19

time-shifted services for broadcasting a same movie from different channels at different start times

6. Claims: 20, 21

EPG scheduling pay per view programmes

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 99/01873

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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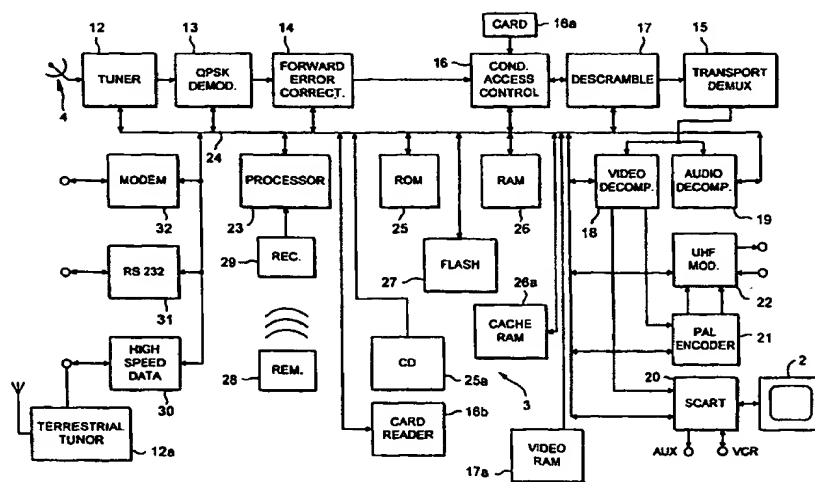
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## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification <sup>6</sup>:</b>  <b>H04N 5/445</b>	<b>A2</b>	<b>(11) International Publication Number:</b> <b>WO 99/66721</b>  <b>(43) International Publication Date:</b> 23 December 1999 (23.12.99)
<b>(21) International Application Number:</b> PCT/GB99/01873 <b>(22) International Filing Date:</b> 14 June 1999 (14.06.99)  <b>(30) Priority Data:</b> 9812797.0      12 June 1998 (12.06.98)      GB  <b>(71) Applicant (for all designated States except US):</b> BRITISH SKY BROADCASTING LIMITED [GB/GB]; Grant Way, Isleworth, Middlesex TW7 5QD (GB).  <b>(72) Inventors; and</b> <b>(75) Inventors/Applicants (for US only):</b> HOLLIDAY, David [GB/GB]; British Sky Broadcasting Limited, Grant Way, Isleworth, Middlesex TW7 5QD (GB). CROSSLEY, Robin [GB/GB]; British Sky Broadcasting Limited, Grant Way, Isleworth, Middlesex TW7 5QD (GB). JAMES, Nicholas [GB/GB]; British Sky Broadcasting Limited, Grant Way, Isleworth, Middlesex TW7 5QD (GB).  <b>(74) Agents:</b> WHITTEN, George, Alan et al.; R.G.C. Jenkins & Co., 26 Caxton Street, London SW1H 0RJ (GB).		<b>(81) Designated States:</b> AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).  <b>Published</b> <i>Without international search report and to be republished upon receipt of that report.</i>

**(54) Title:** IMPROVEMENTS IN RECEIVERS FOR TELEVISION SIGNALS**(57) Abstract**

A receiver for receiving television signals is arranged to receive signals in a plurality of channels. Each signal defines a television programme and at least a signal in one of the channels comprises compressed data defining broadcast events in the channels from time to time. The receiver is arranged to produce output signals defining an image of events in the programme schedule for displaying on a television screen. The receiver comprises means for receiving data defining a dictionary representing text portions, means for decoding the programme scheduling data to identify text portions in the dictionary, and means for constructing the image of events from the identified text portions. A signal in each channel comprises a bouquet identity and a sub-bouquet identity for the channel. The receiver comprises means for storing a reference bouquet identity and one or more reference sub-bouquet identities, means for comparing the bouquet identity and sub-bouquet identity for a channel in a received signal with the reference bouquet and sub-bouquet identities and means for outputting the received television signal for display of the programme or other services defined thereby depending on the comparison.

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DK	Denmark	LR	Liberia	SG	Singapore		
EE	Estonia						

CLAIMS:

1. A receiver for receiving television signals in a plurality of channels each defining a television programme and at least a signal in one of the channels comprising or further comprising compressed data defining broadcast events in the channels from time to time, the receiver being arranged to produce output signals defining an image of events in the programme schedule for displaying on a television screen and comprising means for receiving data defining a dictionary representing text portions, means for decoding the programme scheduling data to identify text portions in the dictionary, and means for constructing the image of events using the identified text portions, wherein data defining two versions of the dictionary is receivable by the receiver, the receiver comprising storing means for storing data defining one version of the dictionary and means for determining whether data for a text portion is in the stored version of the dictionary or the other version of the dictionary.

2. A receiver as claimed in claim 1, wherein the text portions comprise an extended service description.

3. A receiver as claimed in claim 1 or 2, wherein the text portions comprise an event name.

4. A receiver as claimed in claim 1, 2 or 3, wherein the text portions comprise a short event name.



A-D

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>J24602WO</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/GB 99/ 01873</b>	International filing date (day/month/year) <b>14/06/1999</b>	(Earliest) Priority Date (day/month/year) <b>12/06/1998</b>
Applicant <b>BRITISH SKY BROADCASTING LIMITED et al.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☒ Unity of invention is lacking (see Box II).

**4. With regard to the title,**

☐ the text is approved as submitted by the applicant.

☒ the text has been established by this Authority to read as follows:

**TELEVISION SIGNALS RECEIVER**

**5. With regard to the abstract,**

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

2

☐ None of the figures.

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/GB 99/01873

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 99/01873

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC 6 H04N5/445

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

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A	EP 0 823 815 A (MATSUSHITA ELECTRIC IND CO LTD) 11 February 1998 (1998-02-11) column 10, line 55 -column 17, line 13 ---	1-8
A	US 5 585 866 A (DARATA PAUL ET AL) 17 December 1996 (1996-12-17) column 7, line 48 -column 36, line 48 ---	1-8
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☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

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Date of the actual completion of the international search

3 December 1999

Date of mailing of the international search report

14. 12. 99

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## INTERNATIONAL SEARCH REPORT

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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A	WO 96 37996 A (WEBBER ALUN DAVID ;CROSSLEY ROBIN (GB); HOLLIDAY DAVID (GB); BRITI) 28 November 1996 (1996-11-28) cited in the application page 10, line 9 -page 48 ---	1-8
X	US 5 619 274 A (ALEGIANI GIAMBATTISTA A ET AL) 8 April 1997 (1997-04-08) column 9, line 21 -column 49, line 49 ---	9-13
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A	US 5 371 550 A (KUROSAWA KAZUYUKI ET AL) 6 December 1994 (1994-12-06) claims 17-26 ---	9-13
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